

1 WHAT IS CLAIMED IS:

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3 1. A method of displaying images using an image display device having two  
4 displays, each display being arranged in the image display device so as to be capable of  
5 presenting an image to an eye of a user, the method comprising:

6 dividing image signal data into a first portion and a second portion, the first portion  
7 differing from the second portion;

8 generating a right display signal using the first portion of the image signal data;

9 generating a left display signal using the second portion of the image signal data;

10 transmitting the right display signal to a right one of the displays;

11 transmitting the left display signal to a left one of the displays;

12 displaying a right image on the right display from the right display signal; and

13 displaying a left image on the left display from the left display signal, substantially  
14 simultaneously with the displaying of the right image.

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16 2. The method of claim 1, wherein the image signal data includes data capable of  
17 describing a source image arrangeable into an array of columns and rows, the step of  
18 dividing image signal data comprising:

19 selecting a right set of image data values from the image signal data corresponding  
20 to selected points on the array of the source image, the right set of image data values being  
21 used to form the first portion of the image signal data; and

22 selecting a left set of image data values from the image signal data corresponding  
23 to selected points on the array of the source image, the left set of image data values

1 differing from the right set of image data values, and being used to form the second  
2 portion of the image signal data.

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4 3. The method of claim 2, wherein the step of selecting a left set of image data  
5 values includes the step of selecting image data values of which none are included in the  
6 right set of image data values.

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8 4. The method of claim 2, wherein the step of the step of dividing image signal  
9 data comprises:

10 transmitting the right and left sets of image data values to an address calculator.

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12 5. The method of claim 2, wherein the step of generating a right display signal  
13 comprises:

14 formatting the right set of image data values.

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16 6. The method of claim 5, wherein the step of generating a left display signal  
17 comprises:

18 formatting the left set of image data values.

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20 7. The method of claim 1, wherein the step of displaying a right image on the right  
21 display comprises the step of displaying a right image of  $n \times m$  resolution, and the step of  
22 displaying a left image on the left display comprises the step of displaying a left image of  
23  $n \times m$  resolution, wherein  $n$  and  $m$  are integers.

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1 8. The method of claim 1, comprising;

2 sampling a source image signal to produce the image signal data.

3  
4 9. The method of claim 8, wherein the step of sampling a source image signal  
5 comprises:

6 sampling a frame of the source image signal to produce the image signal data.

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8 10. A method of displaying images using an image display device having two  
9 displays, each display being arranged in the image display device so as to be capable of  
10 presenting an image to an eye of a user, the method comprising:

11 displaying a right image on a right display using a first portion of a source image  
12 signal; and

13 displaying a left image on a left display using a second portion of the source image  
14 signal, the second portion of the source image signal differing from the first portion of the  
15 source image signal.

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17 11. The method of claim 10, wherein the step of displaying the left image includes  
18 displaying the left image substantially simultaneously with the displaying of the right  
19 image.

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21 12. The method of claim 10, comprising:

22 dividing the source image signal into the first portion of the source image signal  
23 and the second portion of the source image signal.

1           13. The method of claim 12, wherein the source image describes a frame of a  
2 source image, the dividing step comprising:

3           selecting image data values describing a first portion of the frame to generate a  
4 right set of image data values; and

5           selecting image data values describing a second portion of the frame to generate a  
6 left set of image data values.

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8           14. The method of claim 13, comprising:

9           sampling the source image signal.

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11           15. The method of claim 10, wherein the step of displaying a right image  
12 comprises the step of displaying a right image of  $n \times m$  resolution, and the step of  
13 displaying a left image comprises the step of displaying a left image of  $n \times m$  resolution,  
14 wherein  $n$  and  $m$  are integers.

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16           16. An image display device, the device comprising:

17           a controller arranged to utilize a first portion of image signal data to generate a  
18 right display signal, and to utilize a second portion of image signal data to generate a left  
19 display signal, the first portion of the image signal data and the second portion of the  
20 image signal data being obtained from a source image signal;

21           a right display operably connected to the controller to receive the right display  
22 signal and to utilize the right display signal to display a right image to a right eye of a user;  
23 and

1 a left display operably connected to the controller to receive the left display signal  
2 and to utilize the left display signal to display a left image to a left eye of a user, wherein  
3 the right display signal differs from the left display signal.

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5 17. The image display device of claim 16, further comprising:  
6 an image source for generating the source image signal.

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8 18. The image display device of claim 16, wherein the controller comprises:  
9 a sampler, the sampler being disposed to receive the source image signal from the  
10 image source and to generate image signal data therefrom.

11  
12 19. The image display device of claim 16, wherein the image source includes a  
13 digital storage medium.

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15 20. The image display device of claim 16, further comprising:  
16 a right lens disposed to modify the image displayed by the right image display; and  
17 a left lens disposed to modify the image displayed by the left image display device.